

REMARKS

Claims 1, 3-5, 7-8 are pending in the present application and currently under examination. Claims 2 and 6 are previously cancelled. No amendment to claims has been made in response to the outstanding Office Action.

Claim Rejections Under 35 U.S.C. § 103

Claims 1 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over **Ouchi** (US Patent No. 5,867,213) in view of **Hata** (US Patent No. 6,721,006). Further, claims 3 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouchi** in view of **Hata**, and further in view of **Shiga** (US Patent Publication No. 2005/0062874). Further, Claims 4 and 8 stand rejected over **Ouchi** in view of **Hata**, further in view of **Nagata** (US Patent No. 6,366,228).

Claim 1 is independent and claims 3 and 4 are dependent directly from claim 1. Claim 5 is independent and claims 7 and 8 are dependent directly from claim 5.

Regarding the 103(a) rejections of independent claims 1 and 5:

Claim 1 recites:

“An image signal processing system comprising:
an image sensor for receiving an image of a subject in a light form under the control of a shutter control signal to generate analog signals;
a variable gain amplifier for variably amplifying output signals of the image sensor under the control of a gain control signal to maximize dispersion of the analog signals;
a first A/D converter for receiving the output signals of the variable gain amplifier and converting the received output signals into digital signals;
a second A/D converter for receiving the output signals of the image sensor and converting the received output signals into the digital signals; and
an image data processor for receiving the output signals of the first A/D converter and the output signals of the second A/D converter to find a movement value, generating the gain control signal and the shutter control signal, and *providing the generated shutter control signal to the image sensor,*
wherein the shutter control signal is generated by using the output signals of the second A/D converter.”

Claim 5 recites features somewhat similar to those recited in claim 1.

In the Action, the Examiner has rejected claims 1 and 5, asserting that **Ouchi** teaches all the elements of the claims 1 and 5 currently on file, except for the *variable gain amplifier* and the

image data processor, but **Hata** teaches the *variable gain amplifier* and the *image data processor* of the applicant's claims 1 and 5, respectively in Col. 2, line 62 through Col. 3, line 7 and Col. 3, line 58 through Col. 4, line 22 of **Hata**. The applicant respectfully submits that neither Ouchi nor Hata disclose or even suggest the applicant's "variable gain amplifier" and "image data processor", as recited in claims 1 and 5. Regarding the element "*variable gain amplifier*," Claims 1 and 5 recites: "*a variable gain amplifier for variably amplifying output signals of the image sensor under the control of a gain control signal to maximize dispersion of the analog signals.*" As discussed in lines 5 through 9 on page 6 and lines 11 through 14 on page 7 of the present application, according to various embodiments of the present invention, for example, the applicant's image data processor 24 checks the dispersion of output signals from the first A/D converter 23 and generates a *gain control signal SGC*, which is sent to the variable gain amplifier 22. The gain amplifier 22 receives the SGC signal and, *according to this SGC, variably amplifies* analog signals from the image sensor 21, so as to *maximize the dispersion* (see Figs. 2 and 3 of the present application).

In contrast, as previously mentioned, Ouchi discloses an image pickup apparatus having a vibration sensor for detecting vibrations of the apparatus, an optical image-shake correcting device for correcting an image shake according to an output of the vibration sensor (see Abstract). As shown in FIG. 1, the image pickup optical system includes a high-pass filter 4, a first A/D converter 5, a second A/D converter 6 and a microcomputer 7 (see column 3, lines 27-36, for example). The filter 4 is arranged to extract only a high frequency component included in the video signal outputted from the image sensor 2, and the first A/D converter 5 is arranged to convert an analog signal outputted from the encoder into a digital sensor while the second A/D converter is arranged to convert an analog signal outputted from the filter 4 into a digital signal.

Further, **Hata** discloses a digital camera in which a CPU measures a cycle of a vertical synchronization signal inputted from an image pre-processor (IPP) based on an oscillation frequency of an internal ceramic oscillator (see Abstract). The Examiner asserted that the *variable gain amplifier* in applicant's claimed invention is taught by **Hata**, i.e., disclosed in line 62 on column 2 through line 7 on column 3 of **Hata**. However, **Hata**'s AGC amplifier 105 (see FIG. 1) is different from the applicant's "variable gain amplifier" as recited in claims 1 and 5. As shown in FIG. 1, a vertical synchronization signal is generated from the IPP 107, and the IPP 107 receives the signal that is output from the A/D converter 106 through the AGC amplifier 105 (see column 2,

line 58 – column 3, line 14, for example). Thus, the applicant respectfully submits that the A/D converter 106 of Hata corresponds to the applicant's "first A/D converter" as recited in claims 1 and 5 of the present invention. The vertical synchronization signal and the horizontal synchronization signal generated from the IPP 107 are not used to control the shutter but instead are used to control a display section 122. In other words, **Hata** is totally silent about "a second A/D converter" as recited in claims 1 and 5. Further, **Hata** is silent regarding the technical functions of applicant's amplifier and its co-operations with neighboring elements in order to *maximize dispersion of the output signal from the image sensor*, as explained in the previous paragraph of this remarks.

Regarding the element "image data processor," Claims 1 and 5 recites: "*an image data processor for receiving the output signals of the first A/D converter and the output signals of the second A/D converter to find a movement value, generating the gain control signal and the shutter control signal, and providing the generated shutter control signal to the image sensor, wherein the shutter control signal is generated by the output signals of the second A/D converter.*" .

Regarding the image data processor and the second A/D converter, as shown in lines 21 through 24 on page 6 of the present application, various embodiments of the present invention disclose, for example, that the second A/D converter 25 operates independently of the first A/D converter 23. That is, the applicant's second A/D converter 25 digitizes the signals from the image sensor 25 directly (not via the variable gain amplifier 22) and provides the digitized signals to the image data processor, which then is able to *generate a shutter control signal SSC and provide the SSC to the image sensor 21* (see Figs. 2 and 3 of the present application). The Examiner asserted that these features of applicant's claimed invention are disclosed in **Hata**, from line 58 on Column 3 through line 22 on column 4.

Again, the applicant respectfully submits that **Hata**'s A/D converter 106 is different from applicant's "second A/D converter" as recited in claims 1 and 5 .

Therefore, it is respectfully submitted that the subject matters in claims 1 and 5 currently on file are not obvious over **Ouchi** in view of **Hata** and thus is now allowable. That is, based upon the comments mentioned above, the applicant respectfully submits that the combination of **Ouchi** and **Hata** fails to establish a prima facie case of obviousness over the present invention.

Regarding the 103(a) rejections of claims 3, 4, 7 and 8:

Claims 3, 4, 7 and 8 are also believed to be allowable, by virtue of their direct dependencies from claims 1 and 5, respectively.

Conclusion

In view of the above amendments and remarks, it is respectfully submitted that this application is now in an allowable condition. Reconsideration and subsequent allowance of this application are therefore courteously requested.

If there are any charges with respect to this Amendment or otherwise, please charge them to Deposit Account no. 06-1130.

Respectfully submitted,

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Date: February 27, 2008